APPENDIX OF CLAIMS

24. A method for testing a paper of value (1), in particular a bank note, comprising the steps of:

a) irradiating a paper of value (1) located in a measuring plane (2) in first and second areas, the second area being identical, in overlap or adjacent with the first area,

b) detecting the radiation transmitted through the paper of value in the bright field in the first area by means of a detector located in the direct radiation range of the radiation source,

c) detecting the radiation transmitted through the paper of value in the dark field in the second area by means of a detector located outside the direct radiation path of the radiation source,

d) repeating steps a) to c) with respect to other first and second areas of the paper of value,

e) evaluating the transmitted radiation detected in the first and second areas, and

f) comparing the evaluation results of the particular detected first and second areas for ascertaining whether paper-of-value material is present in said areas.

25. The method according to claim 24, wherein detection and evaluation of the radiation transmitted in the dark field are effected separately in time and detection and evaluation of the radiation transmitted in the bright field are likewise effected separately in time.

26. The method according to claim 24, wherein the paper of value is moved translationally over a predetermined distance in the measuring plane for the total duration of detection and evaluation of the radiation transmitted in the dark field and that transmitted in the bright field.

27. The method according to claim 26, wherein the distance is about 2 mm.

28. The method according to claim 26, wherein the translational motion of the paper of value is continuous.

29. The method according to claim 26, wherein the translational motion of the paper of value is effected after irradiation of the areas.

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30. The method according to claim 29, wherein evaluation of the detected radiation is effected during the translational motion of the paper of value.

31. The method according to claim 24, wherein irradiation of the first area of the paper of value is effected with a first radiation source (6) and irradiation of the second area of the paper of value with a second radiation source (5).

32. The method according to claim 31, wherein detection of the radiation of the first irradiated area transmitted in the dark field and the radiation of the second irradiated area transmitted in the bright field is effected with a time shift by means of a common detector (7).

33. The method according to claim 32, wherein the second radiation source (5) is directed onto the detector (7) directly and the first radiation source (6) is aligned obliquely thereto so as to irradiate the paper of value (1) at the intersection point of the measuring plane (2) with the connecting line between the detector (7) and the second radiation source (5).

34. The method according to claim 31, wherein at least one of the two radiation sources (5, 6) is an IR light source.

35. The method according to claim 31, wherein at least one of the two radiation sources (5, 6) emits visible light the light reflected by the paper of value (1) being detected and compared with a reference value.

36. The method according to claim 24, within detection of the radiation transmitted in the first area is effected with a first detector (7) and detection of the radiation transmitted in the second irradiated area with a second detector (8).

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37. The method according to claim 36, wherein irradiation of the first and second areas of the paper of value is effected by means of a common radiation source (6), the detection of the radiation transmitted through the paper of value in the first area and the radiation transmitted through the paper of value in the second area being effected substantially synchronously.

38. The method according to claim 37, wherein the second detector (8) is directed onto the radiation source (6) directly and the first detector (7) is aligned obliquely thereto so as to detect the paper of value at the intersection point of the measuring plane (2) with the connecting line between the second detector (8) and the radiation source (6).

39. An apparatus for carrying out the method according to claim 1, comprising:

a measuring plane (2),

a device for translationally moving a paper of value (1) in the measuring plane,

at least one radiation sources (5, 6) for irradiating the paper of value located in the measuring plane in first and second areas, the second area being identical in overlap or adjacent with the first area, and

a detector (7, 8) disposed in the direct radiation range for detecting the radiation transmitted from the radiation source through the paper of value in the first irradiated area of the measuring plane (2) in the bright field, characterized by a detector (7) disposed outside the direct radiation output for detecting the radiation transmitted

through the paper of value in the second irradiated area of the measuring plane in the dark field, and an evaluation unit (20) for evaluating the transmitted radiation detected in the first and second areas and for comparing the evaluation results.

40. The apparatus according to claim 39, further comprising:

a first radiation source (6) for irradiating the first area and a second radiation source (5) for irradiating the second area of the measuring plane,

a common detector (7) for detecting both the radiation transmitted through the paper of value in the first irradiated area and the radiation from the second radiation source (5) transmitted through the paper of value 'in the second irradiated area, and

a control device for time-shifted detection of the first and second irradiated areas of the measuring plane (2).

41. The apparatus according to claim 40, wherein the second radiation source (5) is directed onto the common detector (7) directly and the first radiation source (6) is aligned obliquely thereto so as to irradiate the measuring plane (2) at the intersection point of the measuring plane (2) with the connecting line between the common detector (7) and the second radiation source (5).

42. The apparatus according to claim 39, wherein one of the two radiation sources (5, 6) is an IR light source.

43. The apparatus according to claim 42, wherein the other of the two radiation sources (5, 6) emits visible light, and the apparatus furthermore has a reflectance sensor (13) for detecting light reflected by a paper of value (1) located in the measuring plane (2), and an evaluation unit (20) is provided for evaluating the detected reflected light and comparing the evaluation result with a reference value.

44. The apparatus according to claim 39, further comprising:

a common radiation source (6) for irradiating the first and second areas of the measuring plane (2), and

a first detector (7) for detecting the radiation transmitted through the paper of value in the first irradiated area and a second detector (8) for detecting the radiation transmitted through the paper of value in the second irradiated area.

45. The apparatus according to claim 44, wherein a control device is provided for time-shifted detection or irradiation of the radiation transmitted in the first irradiated area and the radiation transmitted in the second irradiated area.

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46. The apparatus according to claim 45, wherein the second detector (8) is directed onto the radiation source (6) directly and the first detector (7) is aligned obliquely thereto so as to detect the measuring plane (2) at the intersection point of the measuring plane (2) with the connecting line between the second detector (8) and the radiation source (6).